

PRIOR ART

FIG. 1

GREEN 1,1	RED 1,2	GREEN 1,3	RED 1,4	GREEN 1,5	GREEN 1,797	RED 1,798	GREEN 1,799	RED 1,800
BLUE 2,1	GREEN 2,2	BLUE 2,3	GREEN 2,4	BLUE 2,5	BLUE 2,797	GREEN 2,798	BLUE 2,799	GREEN 2,800
GREEN 3,1	RED 3,2	GREEN 3,3	RED 3,4	GREEN 3,5	GREEN 3,797	RED 3,798	GREEN 3,799	RED 3,800
BLUE 4,1	GREEN 4,2	BLUE 4,3	GREEN 4,4	BLUE 4,5	BLUE 4,797	GREEN 4,798	BLUE 4,799	GREEN 4,800

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GREEN 599,1	RED 599,2	GREEN 599,3	RED 599,4	GREEN 599,5	GREEN 599,797	RED 599,798	GREEN 599,799	RED 599,800
BLUE 600,1	GREEN 600,2	BLUE 600,3	GREEN 600,4	BLUE 600,5	BLUE 600,797	GREEN 600,798	BLUE 600,799	GREEN 600,800

PRIOR ART

FIG. 2

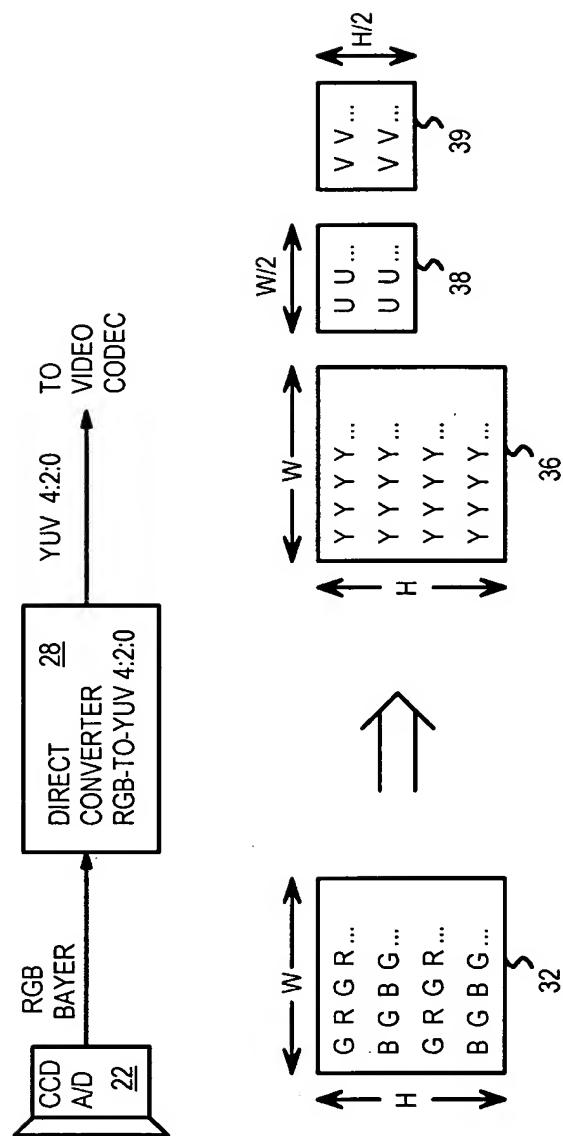


FIG. 3

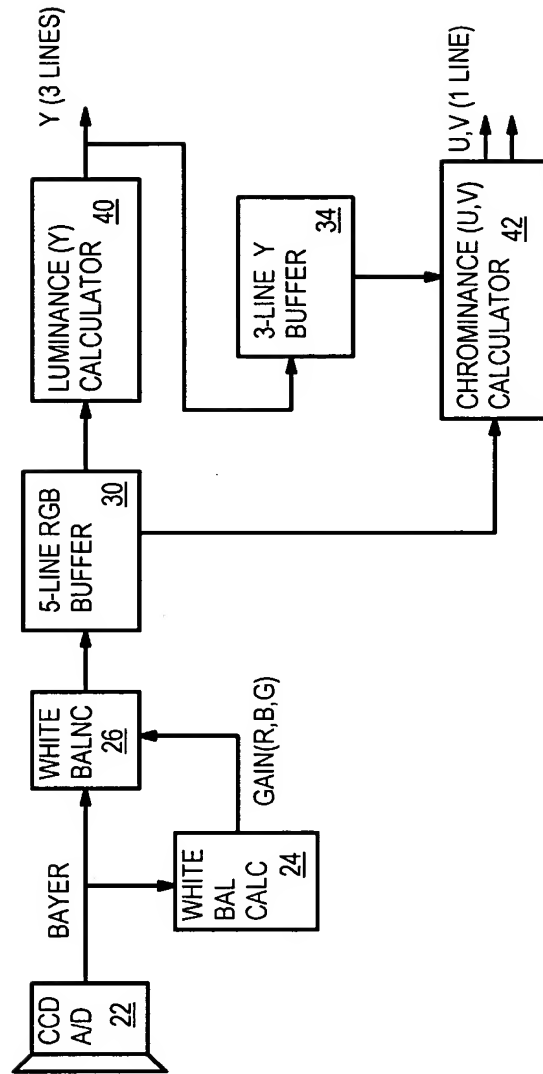
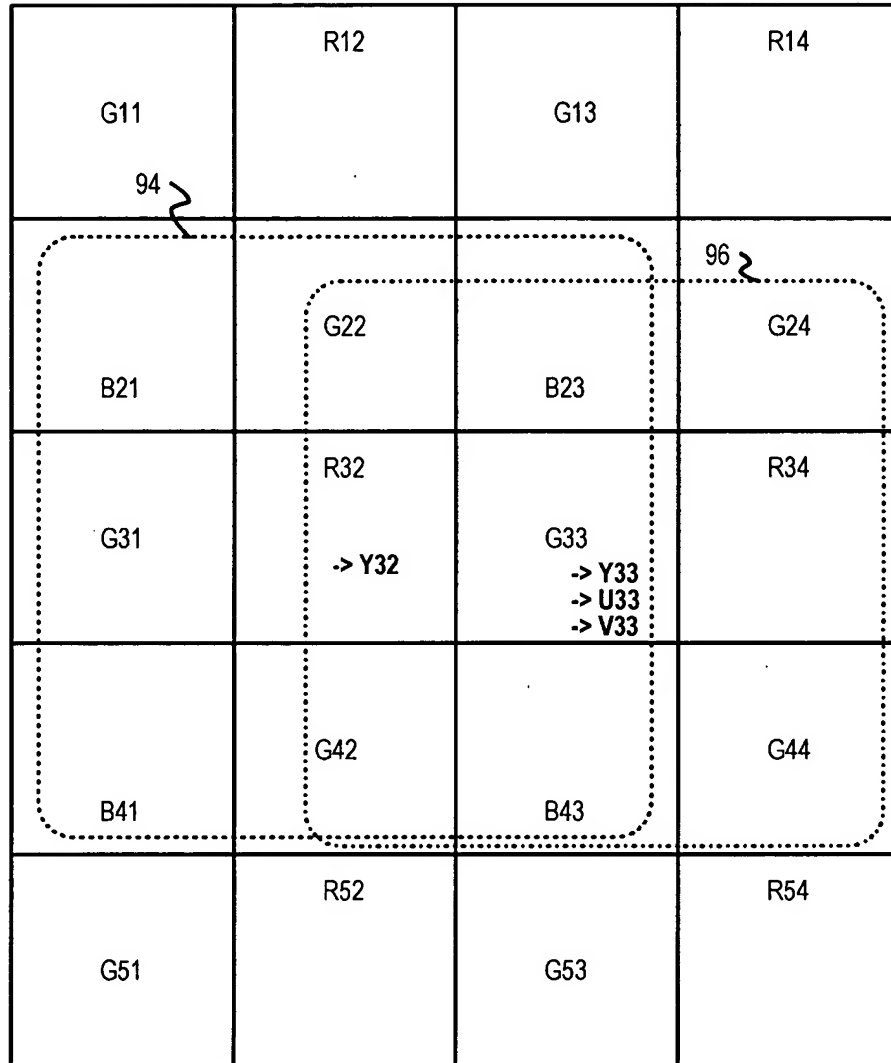
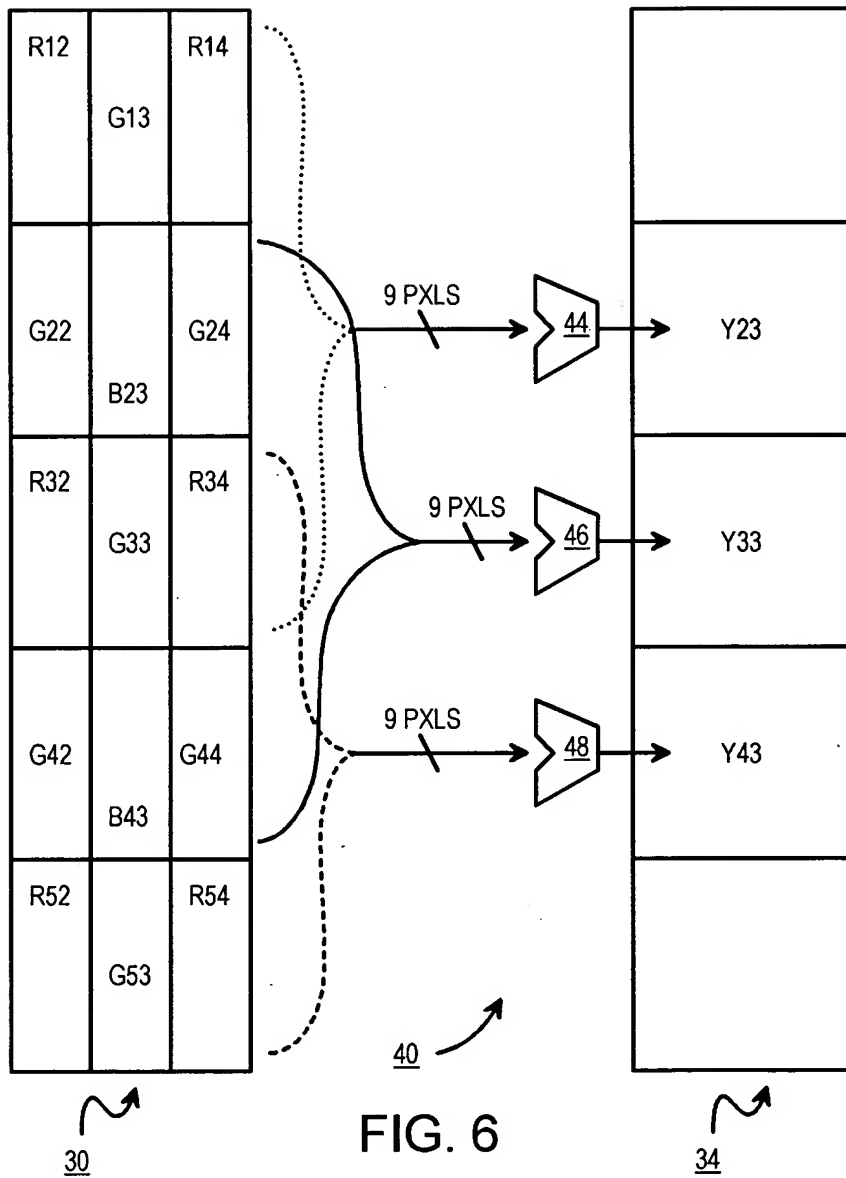


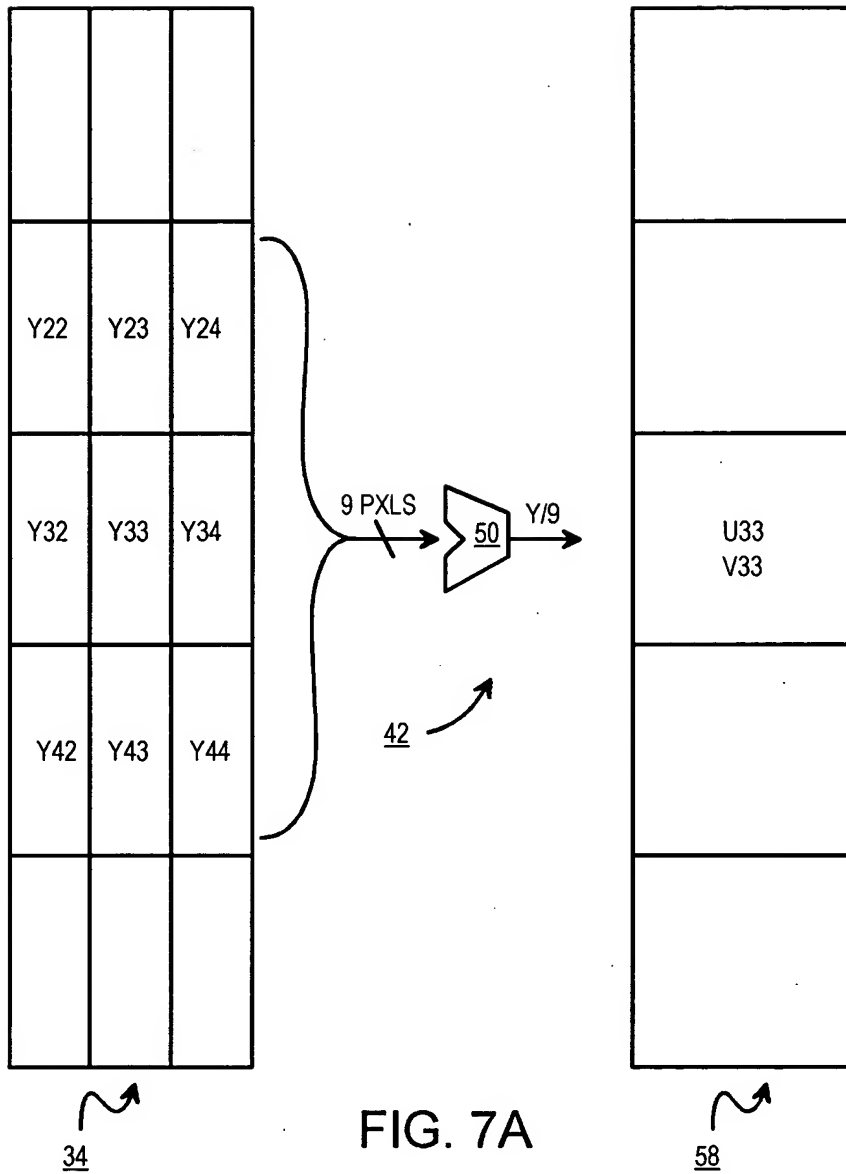
FIG. 4

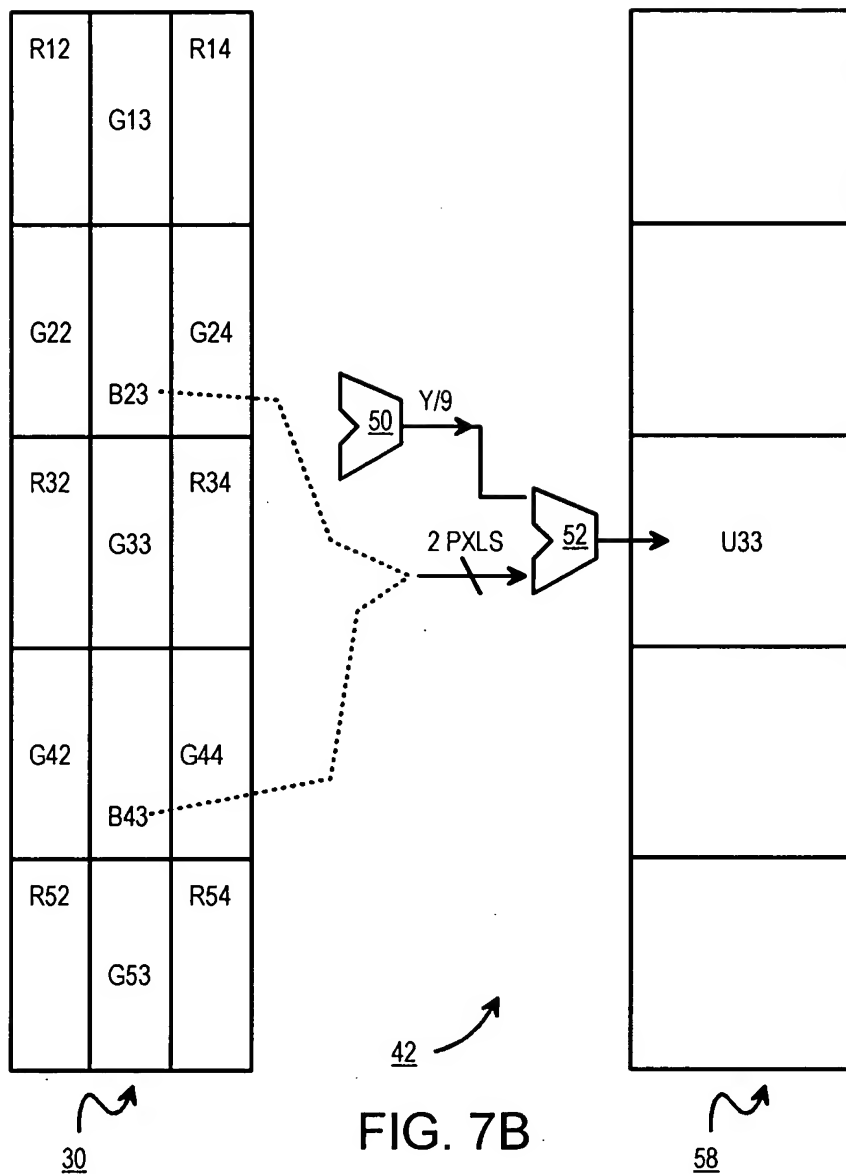


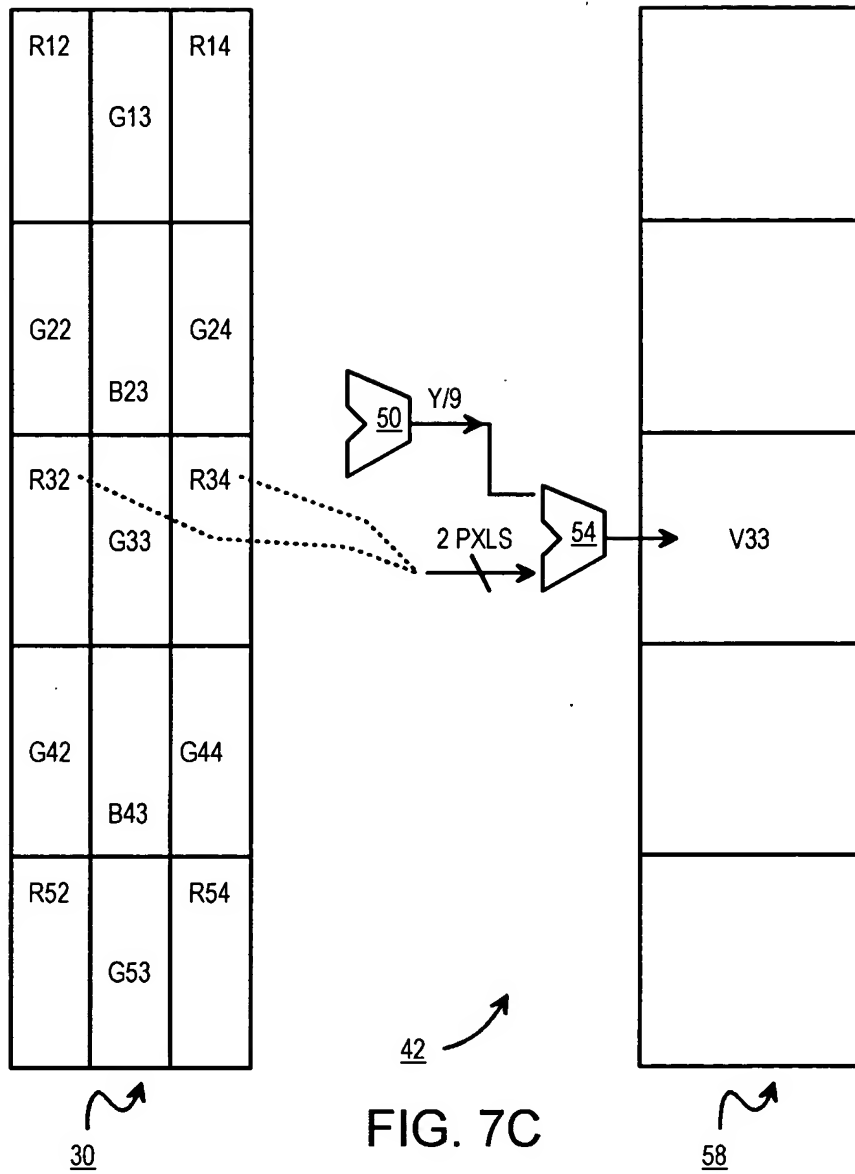
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FIG. 5









LUMINANCE COMPUTATION

C = 0.299, D = 0.587, E = 0.144

G R G	R G R	B G B	G B G
B G B	G B G	G R G	R G R
G R G	R G R	B G B	G B G
PATTERN 1	PATTERN 2	PATTERN 3	PATTERN 4
D/8 C/2 D/8	C/4 D/4 C/4	E/4 D/4 E/4	D/8 E/2 D/8
E/2 D/2 E/2	D/4 E D/4	D/4 C D/4	C/2 D/2 C/2
D/8 C/2 D/8	C/4 D/4 C/4	E/4 D/4 E/4	D/8 E/2 D/8
COEFF FOR PATTERN 1	COEFF FOR PATTERN 2	COEFF FOR PATTERN 3	COEFF FOR PATTERN 4

FIG. 8A

FIG. 8B

FIG. 8C

FIG. 8D

CHROMINANCE COMPUTATION

G B G
R G R
G B G

PATTERN 4

FIG. 9A

1/9 1/9 1/9
1/9 1/9 1/9
1/9 1/9 1/9

COEFF FOR
INTERMEDIATE
SUM (Y/9)

FIG. 9B

0 1/2 0
0 0 0
0 1/2 0

COEFF FOR
INTERMEDIATE
SUM (S_U)

FIG. 9C

0 0 0
1/2 0 1/2
0 0 0

COEFF FOR
INTERMEDIATE
SUM (S_V)

FIG. 9D

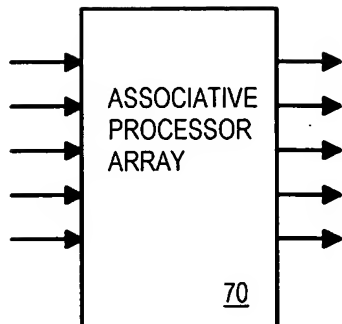
FIG. 9E

$$U = 0.493 \times (S_U - Y/9)$$

$$V = 0.877 \times (S_V - Y/9)$$

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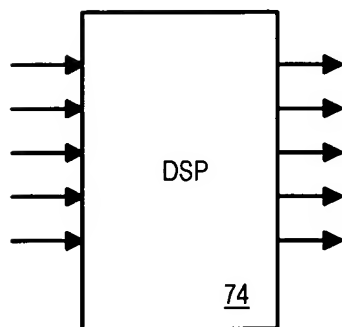
BAYER
PATTERN
R,G,B



Y,U,V

FIG. 10

BAYER
PATTERN
R,G,B



Y,U,V

FIG. 11

CHROMINANCE COMPUTATION FOR B-G-B PATTERN

B G B
G R G
B G B

PATTERN 3

FIG. 12A

1/9 1/9 1/9
1/9 1/9 1/9
1/9 1/9 1/9

COEFF FOR
INTERMEDIATE
SUM (Y/9)

FIG. 12B

1/4 0 1/4
0 0 0
1/4 0 1/4

COEFF FOR
INTERMEDIATE
SUM (S_U)

FIG. 12C

0 0 0
0 1 0
0 0 0

COEFF FOR
INTERMEDIATE
SUM (S_V)

FIG. 12D

FIG. 12E

$$U = 0.493 \times (S_U - Y/9)$$

$$V = 0.877 \times (S_V - Y/9)$$